

# Annual Report (2010-2011)

on

## Enhancing Livelihood of Rural Women through Livestock Production



**Division of Agricultural Extension  
ICAR Research Complex for NEH Region  
Umroi Road, Umiam-793 103, Meghalaya**



**Network Project**  
**on**  
**“Enhancing Livelihood of Rural Women through Livestock Production”**

**1. Project title:**        **Enhancing Livelihood of Rural Women through Livestock Production**

**2. Investigators:**     PI                 : Dr. P.K Sahoo  
                                  CC-PI             : Dr. Anupam Mishra  
                                  CC-CO-PI       : Dr. G. Kadirvel  
                                  CC-CO-PI       : Dr. S. Seeralan  
                                  SRF                : Ms. Nongthombam Shadani Devi

**3. Introduction**

Meghalaya (Abode of the clouds), located south of Assam, called the Scotland of East by the colonial rulers long ago, is small state with an area of 22,429 sq. kms. and with a total population of 2,318,822 (2001 Census). The state of Meghalaya has seven districts namely, East Khasi Hills, West Khasi Hills, East Garo Hills, West Garo Hills, South Garo Hills, Ri-Bhoi and the Jaintia Hills. The bulk of the population belongs to three major tribal communities i.e., the Khasis, the Garos and the Jaintias (also better known as the Syntengs or the Pnars). In Meghalaya, the percentages of rural and urban tribal population are 86.44 per cent and 13.56 per cent respectively.

Agricultural operations having limitations in Meghalaya due to its topography, climatic conditions and socio-economic conditions claiming only about 10 per cent of the total land for cultivation, livestock and poultry provide the only alternative avocation the villagers fall upon for a subsidiary living. The topography, climate and socio-economic conditions makes the people to depend more on Animal Husbandry activities mainly due to the practice of traditional agriculture in hilly areas allows only about 10 per cent of the total land in the state. Thus, livestock and poultry farming is the only alternative avocation on which the villagers can fall upon for a subsidiary living.

**4. Objectives:**

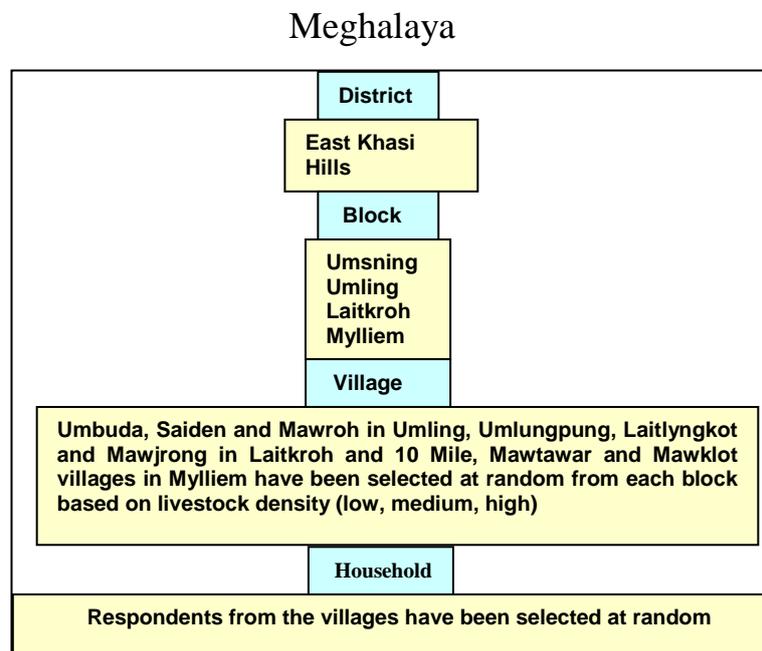
- Assessment of socio-economic conditions and women’s role, gender issues, policies and programmes in livestock production
- Identification and refinement of appropriate technology to address the gender needs

- Facilitate appropriate institutional mechanism and capacity building for up scaling of appropriate technologies

**5. Start of project:** 2009-2010

**6. Methodology adopted in the study**

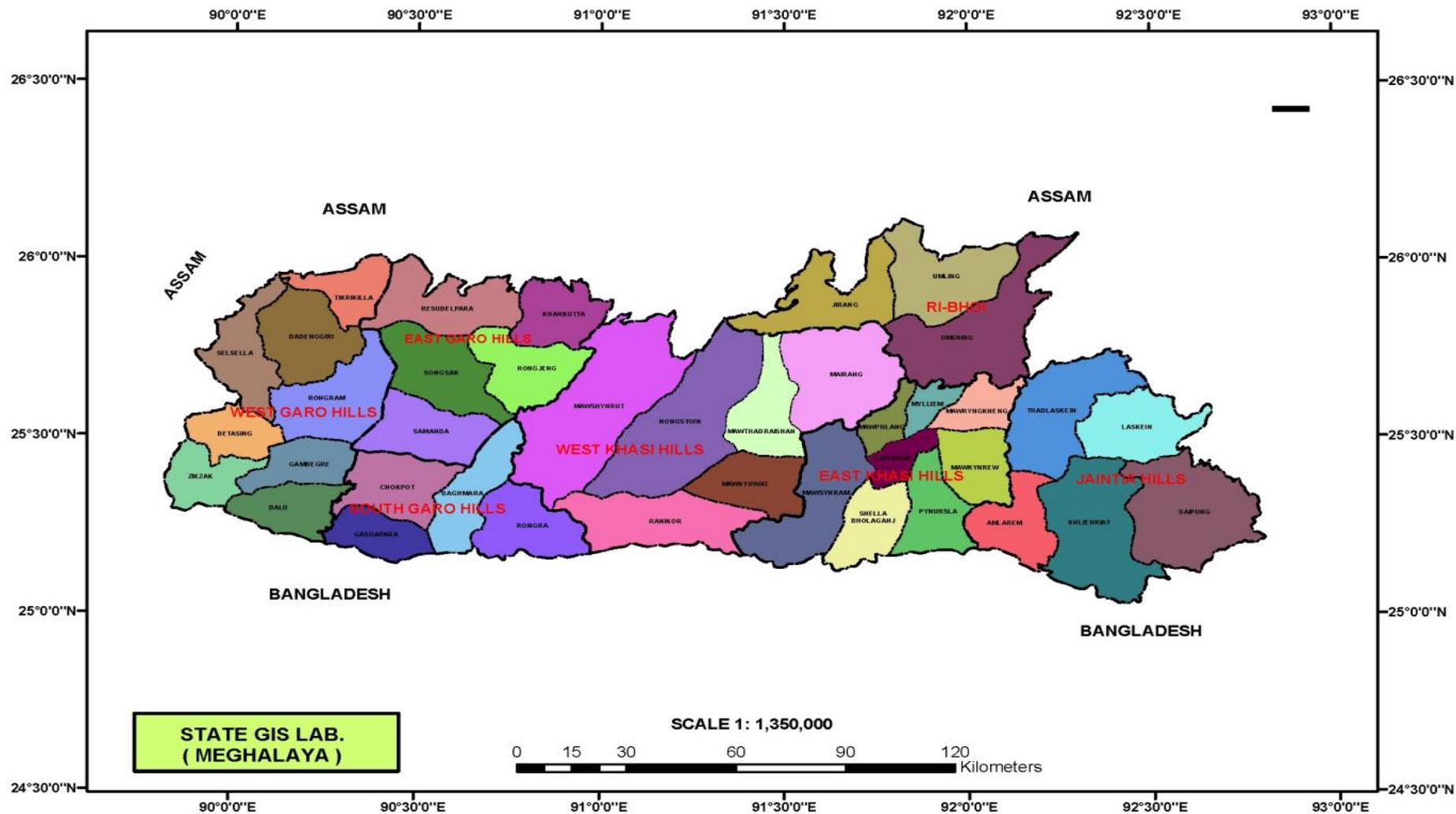
The major objective of site selection is to identify the locations where livestock plays



*Flow-chart depicting the selected area of study*

an important role in the livelihood improvement of hill people of Meghalaya. The site for data collection was selected using multistage random sampling techniques. The main domain was selected randomly from district based on production system and livestock density. For each block three villages were selected taking livestock population into consideration. From each village respondents were selected randomly.

### C & RD BLOCK MAP OF MEGHALAYA

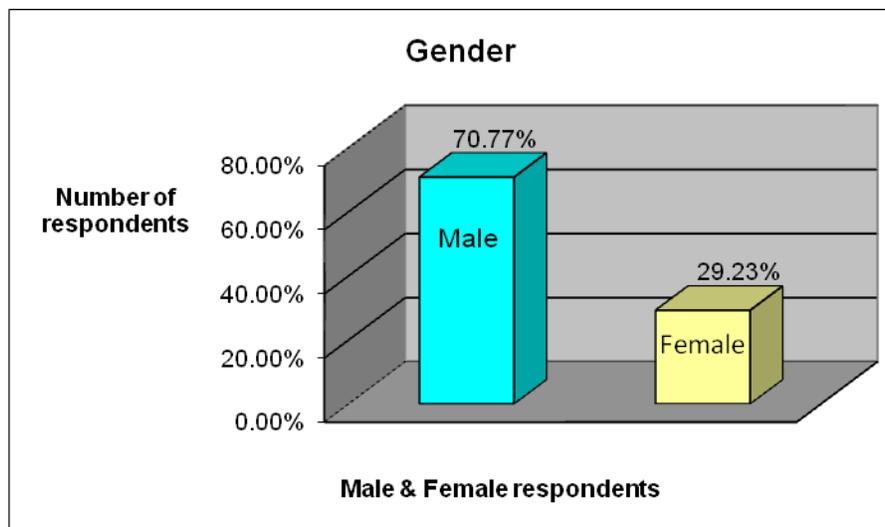


## 7. Activities undertaken during the year 2010-11:

- Data collection completed from two districts viz., East Khasi Hills and Ri-Bhoi districts of Meghalaya.
- Umsning and Umling block were selected from Ri-Bhoi district and Myllem and Laitkroh blocks from East Khasi Hills
- Three villages selected randomly from each block. Umeit, Umktieh and Mawpun villages in Umsning block, Umbuda, Saiden and Mawroh in Umling, Umlungpung, Laitlyngkot and Mawjrong in Laitkroh and 10 Mile, Mawtawar and Mawklot in Myllem block
- Data were collected from the respondents using appropriate schedules of the above mentioned villages and entry of the enormous data has been done in Microsoft Access
- Observations were drawn from the data collected

## 8. Findings

Primary data was collected from the randomly selected villagers/households. The respondents consisted of both male and female gender comprising of 70.77 per cent males and 29.23 per cent females.

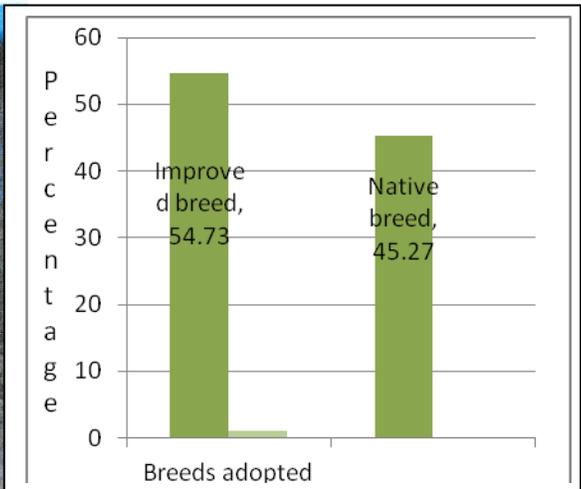


*Fig. 1: Gender of respondents*

The society structure prevailing in the area being matrilineal reserves all ownership rights to females. The data collected comprises of respondents from scheduled tribes category (99.14 %), 0.57 per cent general category and 0.29 per cent scheduled castes.

***Breeds adopted***

The data collected inferred that the respondents rearing pigs adopted 54.73 per cent improved breeds and 45.27 per cent native breeds showing increased improved breed rearing compared to the native varieties.



***Fig. 2: Improved breed***

***Fig. 3: Graph showing adoption rate of breed***

**9. Technology adoption**

Here the level of technology adoption by the farmers is assessed which falls under different technology heads viz., feeding, breeding, health care and processing technologies.

***9.1. Feeding Technology***

Under the feeding technology, the adoption rate of kitchen waste based feeding is found to be cent per cent, followed by low cost feed formulation (99.72%), further followed by sweet potato based feeding whose adoption level is 89.47 per cent and last but not the least comparatively lowest

adoption is shown by creep feed formula (18%). This low adoption rate of creep feed is because about 60 per cent of the respondents have less or no triability of the system and 33.90 per cent shows lack of awareness hence, 81.99 per cent non adoption (as shown in table 1).

Low cost feed formulation		Sweet potato based feeding		Creep feed formula		Kitchen waste based feeding	
<i>Adopted</i>	<i>Not adopted</i>	<i>Adopted</i>	<i>Not adopted</i>	<i>Adopted</i>	<i>Not adopted</i>	<i>Adopted</i>	<i>Not adopted</i>
99.72%	0.28%	89.47%	10.53%	18%	81.99%	100%	0%

**Table 1: Feeding technology adoption level**



**Fig. 4: Feed for pigs**

The types of feed varies with the farmers’ status, the semi-scavenging landless farmers fed the animals with broken rice, leaves and vegetable wastes, while the small farmers fed rice bran, broken rice and vegetable wastes but the better medium farmers provided better and well-balanced feed made up of rice polish, leafy vegetables, maize and kitchen waste. Common feed resource comprising of rice bran, wheat bran, broken rice, sweet potato, colocasia, banana stem, tapioca and weeds. Green fodder, tree leaves, kitchen waste, vegetables and concentrate feed (1-2 kg/day) were fed; in summer

and rainy season the feed consisted of green fodder being available in plenty and during winter only dry fodder and concentrate feed is fed.

**9.2. Breeding Technology**

Although majority of the farmers do not adopt breeding as they find it unnecessary when the piglets are easily available for rearing. The breeding of animals were done by natural service in 77.77 per cent of the respondents although they had to pay a large sum of money and 22.22 per cent had adopted artificial insemination (AI).



**Fig. 5: Breeding of pigs through AI in farmer’s farm**

The farmers believed that it involves higher risk to go for artificial insemination and the rate of survival of piglets is very less and declined to adopt the new technology despite of some farmers making it a success in breeding involving artificial insemination.

Breeding adopted		Breeding not adopted	Castration	
10.32 %			Adopted	Not adopted
AI	Natural service	Adopted		
22.22%	77.78 %	89.68 %	46.70 %	53.30 %

**Table 2: Breeding technologies adoption level**

Castration was found to be adopted by the villagers and of which 46.01 per cent of the respondents practiced the traditional method and among those who practiced castration done scientifically involving the veterinarian (49.08 %) did not find any difficulty in doing so. In case of the farmers who had not adopted castration the reasons for non-adoption is that they find it more risky, less triability and lack of awareness.

**9.3. Health Care**

In the villages the farmers’ adoption level of health care technologies is observed to be higher in deworming than vaccination. Most of the farmers do not understand the need of vaccination of their animals and hence less adoption rate.

<b>Vaccination</b>		<b>Deworming</b>	
<i>Adopted</i>	<i>Not adopted</i>	<i>Adopted</i>	<i>Not adopted</i>
57.60%	42.40%	73.93%	26.07%

**Table 3: Health care adoption level**

**9.4. Processing technologies**

The villagers carry out curing and drying of meat following traditional method only and they have no knowledge about scientific processing technologies. Merely 15 per cent of them carry out processing of meat following the age old traditional method.

**Gender Issues**

Problems arising in livestock farming among the female gender in handling farming system independently are observed in areas like purchasing and transportation of pigs. Construction of pig shed is solely carried out by men in the villages, either by the family members or by hiring in absence of male family member. Here, the traditional housing system is of *katcha* type made of locally available materials like wooden planks, straw and bamboo with poor drainage system, slurry floor

and lack of entrance, this prevents or makes it difficult for women to enter the shed as well as for cleaning of pig shed.



***Fig. 6: Traditional housing system of pigs***

Another difficulty perceived is that when the pigs are to be shifted from one place to another, women finds the shifting of animals inept for them as it involves more physical input/labour. Another aspect is the medication of the pigs, for the purpose of restraining the pig/piglet during medication it is difficult for womenfolk to hold the animal in place as the sick animals tend to be no longer docile, for this they need a strong hand and hence depend on menfolk. In these areas the water source is located at distant places; collection of water from long distances in the hilly slopes for the purpose of cleaning the shed is not possible for women, as collecting drinking water only has been unavoidable drudgery. In management of newborn piglet and sow it is unsuitable for most of the fairer sex of the society to handle management of newborn piglet and sow. For land preparation for cultivation of fodder, women can help with light works like weeding, planting/sowing, harvesting, earthing up, mulching, etc., but land preparation and digging up of tubers is usually done by men as it involves hard work. One of the major obstacles is that the women folk do not have access to regular trainings

in their villages and their knowledge on innovative technologies is not enhanced and the people lack adoption of modern technologies and it does not reach *en masse*. The matrilineal structure of society prevailing in the area reserving ownership rights of assets to women only pose as a barrier for the male gender in the society to a large extent in the arena of decision making.

### **Summary**

The adoption of improved breed had certain constraints as cited by the respondents some of which were availability of feed and fodder, the consumption rate is higher compared to local/native breeds, they feel greater threat to their animals by adopting in the environment housing the native ones, financial constraints not to be chalked out among the rest has a very important role to play in the adoption rate. The technology adoption in feeding is found to be good except for the adoption of creep feed as lack of awareness and no triability persists among the pig rearers about the technology. In breeding technologies, the artificial insemination is not well adopted among the farmers (22.22%) due to lack of confidence and awareness. Castration done traditionally (46.01 %) involved experienced villagers who are called from time to time when required by the farmers and post-operation medication is also provided by them which include mustard oil, smoke carbon and turmeric. In health care technology, higher adoption rate is seen in deworming as compared to vaccination as most are not much aware about the benefits of vaccination and hence feel not necessary. In processing technology due to lack of awareness on scientific method the people generally follow traditional method of drying and curing (15 %) in the fireplaces at their respective homes. Some gender issues are identified and they are the purchase of animals from market and their transportation, construction of shed, restraining the animals during medication, cleaning of shed in the traditional housing system, shifting of animals and land preparation for cultivation of fodder are some of the drawback areas which inhibits women to take up livestock production single-handedly as a source of livelihood.

### **Future prospects**

- Refinement and validation of appropriate technologies suitable for the womenfolk will be done in the following year.
- Assessment and refinement of pig production technologies will be formulated after completing analysis of data collected.

- Facilitation of appropriate institutional mechanism and capacity building for up scaling of appropriate pig production technologies
- The remaining data which is not included in the present report will be analyzed using appropriate tools.

## FINANCIAL PROGRESS FOR THE YEAR 2010- 11

**Project:** - “Network project on Enhancing Livelihood of Rural Women through Livestock Production.”

**Name of the Centre:**

**ICAR Research Complex for NEH Region, Meghalaya**

Sl. No	Component	Sanctioned amount of 2008-09 (unutilized) (Rs.)	Closing balance of 2009-10 (Rs.)	Sanctioned Amount 2010-11 (Rs.)	Fund Released (2010-11) (Rs.)	Actual Expenditure Incurred upto 31 <sup>st</sup> March 2011 (Rs.)	Balance as on April 2011 (Rs.)
1	Travelling Allowance	50,000.00	42,442.00 + 50,000.00	50,000.00	50,000.00	Nil	<b>3,58,000.00</b>
2	Research Contingency			2,58,000.00	2,58,000.00	2,47,508.00	(+)
3	Non-Recurring Contingencies			50,000.00	50,000.00	Nil	(-)
<b>Total</b>		<b>50,000.00</b>	<b>92,442.00</b>	<b>3,58,000.00</b>	<b>3,58,000.00</b>	<b>2,47,508.00</b>	<b>2,02,934.00</b>

(A. Mishra)

**CC P.I**

Enhancing Livelihood of Rural  
Women through Livestock Production

(P. Ghosh)

**F.A.O.**

(S.V. Ngachan)

**Director**

## GFR 19-A

### FORM OF UTILIZATION CERTIFICATE

Sl. No.	Letter No. & Date	Amount (Rs.)
1.	F.No.DRWA/NW-3/2010-11/9075 dtd. 6 <sup>th</sup> May 2010 (vide DD No. 190952 dtd. 05.05.2010)	1,30,000.00
2.	F.No.DRWA/NW-3/2010-11/9341 dtd. 31 <sup>st</sup> July 2010 (vide DD No. 194779 dtd. 29.07.10)	2,28,000.00
<b>Total</b>		<b>3,58,000.00</b>

Certified that amount of **Rs.3,58,000/-** (Rupees three lakh fifty eight thousand) only sanctioned in favour of **ICAR RC for NEH Region, Umiam, Meghalaya** under the Ministry / Department letter No. given in the margin. A sum of **Rs. 2,47,508/-** (Rupees two lakh forty seven thousand five hundred and eight) only has been utilized for the purpose of the Project for which it was sanctioned and that the balance of **Rs. 2,02,934/-** (Rupees two lakh two thousand nine hundred and thirty four) only remaining unutilized at the end of the year has been surrendered to grant (vide No. **Nil** dt. .... **Nil**) / will be adjusted towards the grant-in-aid payable during the year 2011-2012.

Certified that I have satisfied myself that the conditions on which the grant-in-aid was sanctioned have been duly fulfilled / and are being fulfilled and that I have exercised the following checks to see that the way was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised:

- 1.
- 2.
- 3.
- 4.

Signature:.....  
Designation:.....  
Date:.....